NPCI
भारतीय राष्ट्रीय भुगतान निगम
NATIONAL PAYMENTS CORPORATION OF INDIA

UNIFIED PAYMENT INTERFACE

UPI
UNIFIED PAYMENT INTERFACE

World Bank
DPI Workshop
13 September 2023

India’s Approach towards building Digital Public Infrastructure

01 Public Good

- Large citizen scale public platforms (Aadhaar, NPCI, COWIN)
- Not for profit Institution
- Protect from Private Interest and misuse of data

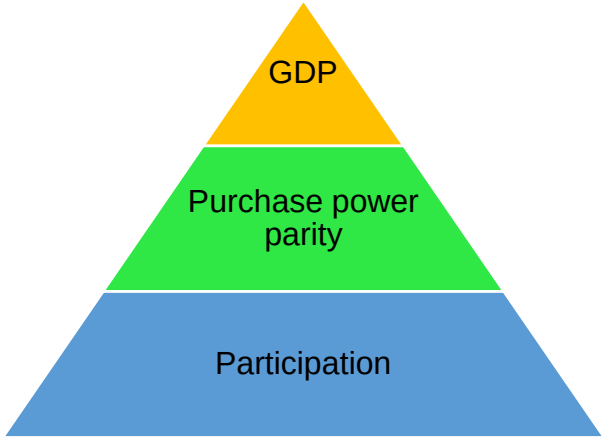
02 Deep Tech

- AI, advanced open source, Cloud Ready
- Billion a Day Architecture
- Low cost, asset-lite, high-speed payments

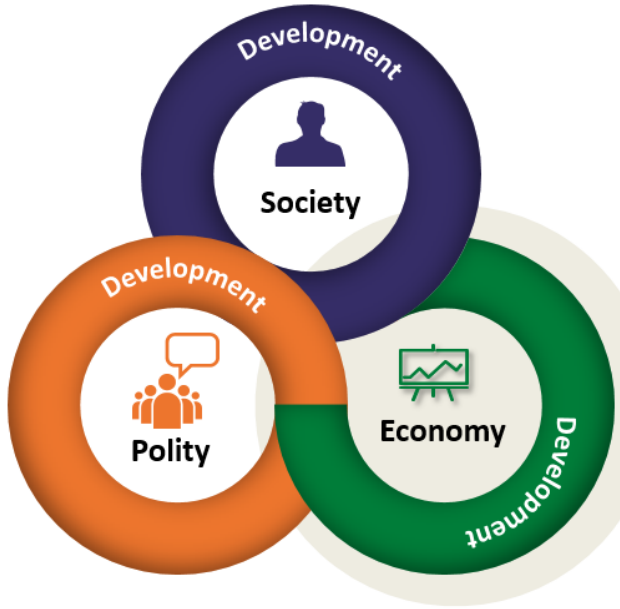
03 Ecosystem Builder

- Innovation led Government and Regulatory Policies
- Support entrepreneurial ecosystems
- Ecosystem led local Innovation

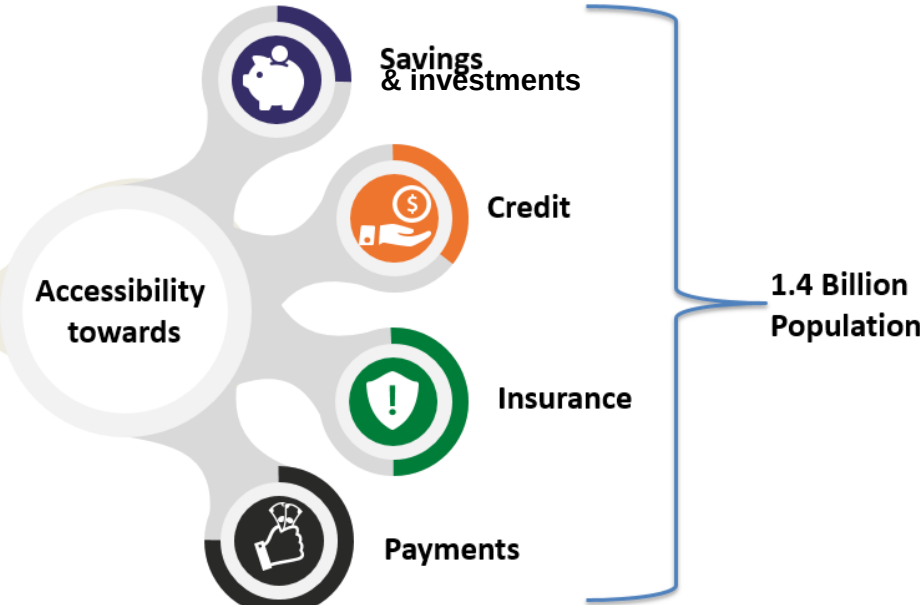
RBI and GOI > Objective to Digitize Indian Citizens



Success indicators



Key Drivers



Key Challenges

01 Unreliable Network

02 Limited Digital Literacy

03 Language Barriers

04 Low Trust

UPI playing central role amongst DPI's in India with globalization aspiration

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USP's of UPI

- Robust engine powered by world class Technology
- Interoperable and cost-efficient platform
- Open banking themed - Safe, secure and simple
- Multiple use cases (P2P and P2M) thru Alias and QR
- Unique and inclusive model driven through Ecosystem Collaboration

UPI has truly transformed the digital payment landscape in India

UPI's contribution to digital transformation in India is well acknowledged….

EXCLUSIVE INTERVIEW SUNDAR PICHAI
CEO, GOOGLE & ALPHABET

Country has Set Shining Example with UPI, Aadhaar & India Stack

Concerned by some aspects of CCI rulings against Google, says Pichai

Given the scale and role that technology plays in society, governments – including in India – are rightfully ensuring citizen's rights, particularly around privacy, security, data, etc.

Fintech · 2 Min Read

With UPI, India has created something 'truly special': Mark Zuckerberg

Facebook CEO Mark Zuckerberg said he is 'excited' that WhatsApp has been approved to launch payments across India and said he wanted to thank all the partners who have made this possible.

IMF praises India's digital transformation, calls it 'world-class infrastructure'; Asks other nations to learn from it

India's journey highlights lessons for other countries embarking on their own digital transformation

WEB DESK · Apr 6, 2023, 08:00 pm IST in Bharat, Technology

India's Aadhaar, UPI, CoWin Journey Inspiring; Others Can Follow for Digital Evolution: UNDP Officer

India's UPI system a global model: Bill Gates

YOOLIM LEE
BLOOMBERG

Tech pioneer Bill Gates praised India's policies for financial innovation and inclusion, saying his philanthropic foundation is working with other countries to roll out open-source technologies modeled on the country's implementation.

India has built ambitious platforms for universal identification and digital payments, including the world's largest biometric database and a system for sending rupees between any bank or smartphone app. Gates said those policies have drastically reduced the cost and friction of distributing aid to the poor, especially during the pandemic.

"If people are going to study one country right now, other than China, I'd say they should look at India," Gates said at the Singapore Fintech Festival on Tuesday. "Things are really exploding there and innovation around that system is phenomenal."

Indian digital payments took off after the government pushed demonetization in 2016, invalidating most of the country's high-value bank notes in a move to curb corruption and push Indians away from cash.

The Unified Payments Interface, or UPI, has been aided by booming smartphone use and wireless data rates that are among the lowest in the world.

India mandates that companies use its UPI platform so payments can be sent easily among all services, including those from Facebook Inc., Amazon.com Inc., Walmart Inc., Paytm and any new upstart.

Zero user fees are also required.

"India is a great example," the co-chairman of the Bill & Melinda Gates Foundation said during the virtual conference. His organization is now helping some countries that don't have established standards to roll out similar systems based on open-source technologies, he added.

India's biometric system – called Aadhaar or "foundation" in Hindi – has raised privacy concerns because it can also be used for government surveillance of citizens. Prime Minister Narendra Modi opposed the system before coming to power, but has since embraced it. Countries such as Russia, Morocco and Bangladesh have expressed interest in the approach.

Gates, overall, was optimistic about how quickly vaccines were being developed to address the Covid-19 pandemic. He expects there will be about six treatments available in the first quarter of next year, which he called a significant accomplishment.

"Digital things overall – remote learning, telemedicine, digital finance – were greatly advanced," he said. "So even though the pandemic has been terrible, it has pushed some of these innovations, including how quickly we make vaccines."

But Gates warned that addressing the virus has to be done in an equitable way – rich countries shouldn't get to decide who gets access to vaccines.

That's why his foundation is working with global manufacturers, including the Serum Institute in India, to make sure there are sufficient dosage numbers at reasonable prices.

He said he expects vaccines to put an end to the coronavirus in 2022, though he warned against complacency.

"We can't forget that another pandemic will come, so we need to invest and be ready," he said.

UPI makes India global leader in growth of real-time payments infrastructure as cash use declines: Report

How India became the global 'guru' of instant payments

The country is exporting its successful digital payments model to help other markets develop UPI ecosystems

Home / Companies / Interviews / India can repeat UPI success in e-commerce: Walmart CEO Doug McMillon

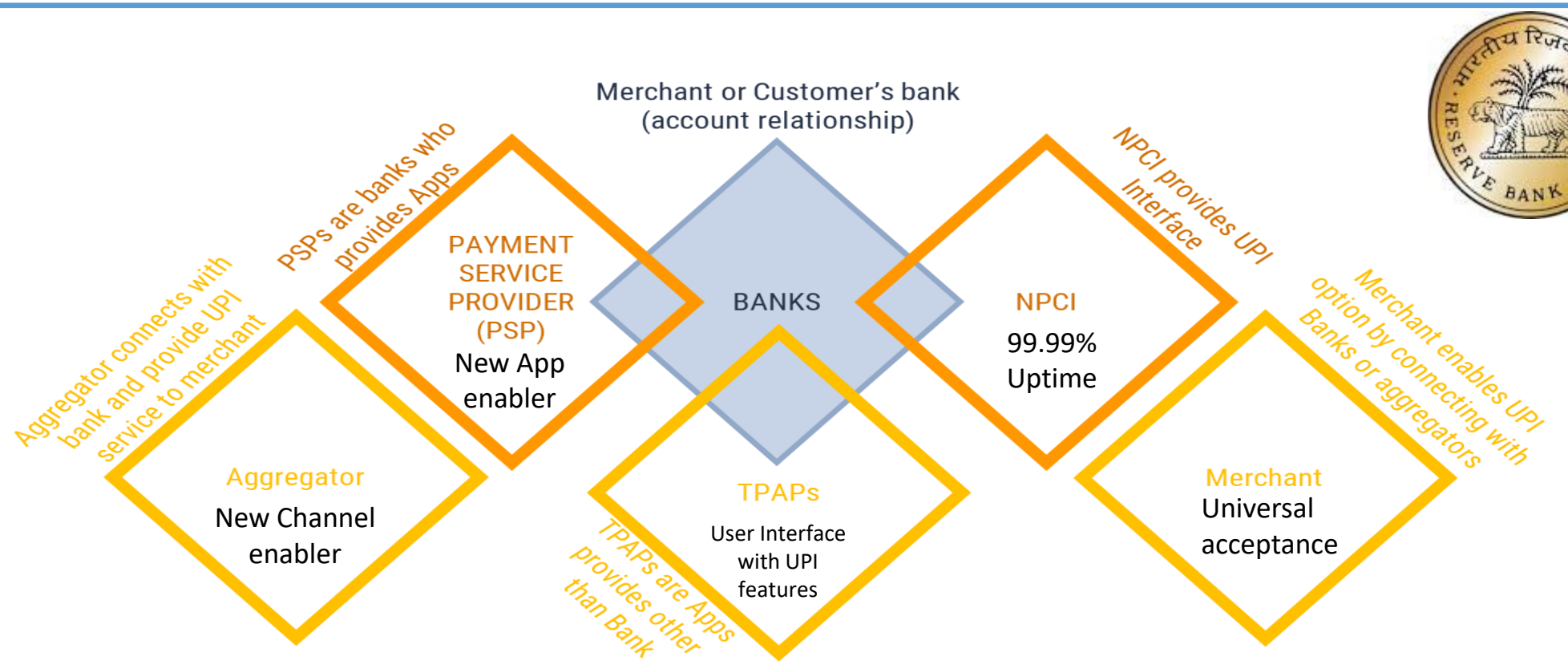
India can repeat UPI success in e-commerce: Walmart CEO Doug McMillon

'We talk about India in every board meeting'

TIME 100 MOST INFLUENTIAL COMPANIES 2023

National Payments Corporation of India
Connecting commerce

UPI ECOSYSTEM and its critical success factors



UPI ecosystem is well governed by **Reserve bank of India**

UPI Unique Features

Payment Identifier

- UPI ID
- Bank A/C number
- Mobile number

Distribution Model

- Bank Apps
- Third party Apps

Acceptance

- Individual/ Merchants via
  - QR
  - Mobile Number
  - UPI ID
  - Tap n Pay

Channels

- IVR/Voice
- Mobile Application
- Web

Programmable

- Mandate via Autopay
- Risk Rules for On device UPI Wallet (Lite)

Source of Funds

- PPI Wallets
- RUPAY Credit Card
- CBDC
- Credit Line
- E-RUPI
- Current / Saving Bank accounts

One platform – Multi-Channel and Multi-Source of funds

IVR

Payment application

Internet Banking

Bank mobile application

3rd Party Apps

PSP mobile application

Mobile Money / Wallet Providers

Standard Interface

Banks

Standard Interface

Payment Service Providers

Standard Interface

Unified Payments Interface Platform

Savings Account

Credit Line

Over Draft Account

RuPay Card

PPI Wallets

CBDC

Lite Wallet

Any Channel initiation

UPI APIs

Any Source of Funds

Platform Approach

It’s all about numbers

10.5
Billion/month

Total Txns

₹ 15.76 Trillion

Total Value

185 Billion API Hits

~6.2 Billion API
Hits calls per **Day**

<100 ms latency

System Capacity

Next phase of Growth

Conversational Payments

AI model for conversation payment in multiple Indian Languages

Mandate for recurring payments

Subscriptions, OTT, lending, utility payments etc

Potential **to create 1 billion mandate**

AutoPay

Credit

Easy access to loans for untapped segments using Bank issued **Credit Line**

Faster and convenient payments by linking **RuPAY credit cards on UPI**

Multiple use cases (Scholarship, subsidies)

Only mobile phone and e-voucher required

E-Rupi

UPI Tap n Pay

NFC enabled payments

Online and Offline Tap based smart phone payments (NFC enabled and UPI tag)

Smart QR sticker with NFC tag

Single Factor Low ticket Payments**Online and Offline Tap**

Reduce load of Core Banking System

Frictionless offline payments

UPI LiteX

Globalization

Cross Border Payments

Merchant Payments (P2M)

UPI

- Push transaction (where customer knows merchant's UPI ID or scans the QR)
- Conversion rates (in-built DCC)

RuPay

- RuPay Cards issued in India and accepted outside (Singapore, UAE)
- RuPay Cards issued outside India and accepted in India (Bhutan, Mauritius)

Cross Border Remittances

Payments to Individuals (P2P)

UPI Direct Platform

- Two countries RTP rails connect
- Adherence to G20 principles :
  a) Accessibility
  b) Transparency
  c) Real time
  d) Costs below 3%
- Transaction with all compliances <30 sec
- Customer using App and inter alia

Global – RuPay & UPI

Infrastructure Build

- Build efficient domestic payments at lower cost of operations

Additional value added stack

Analytics

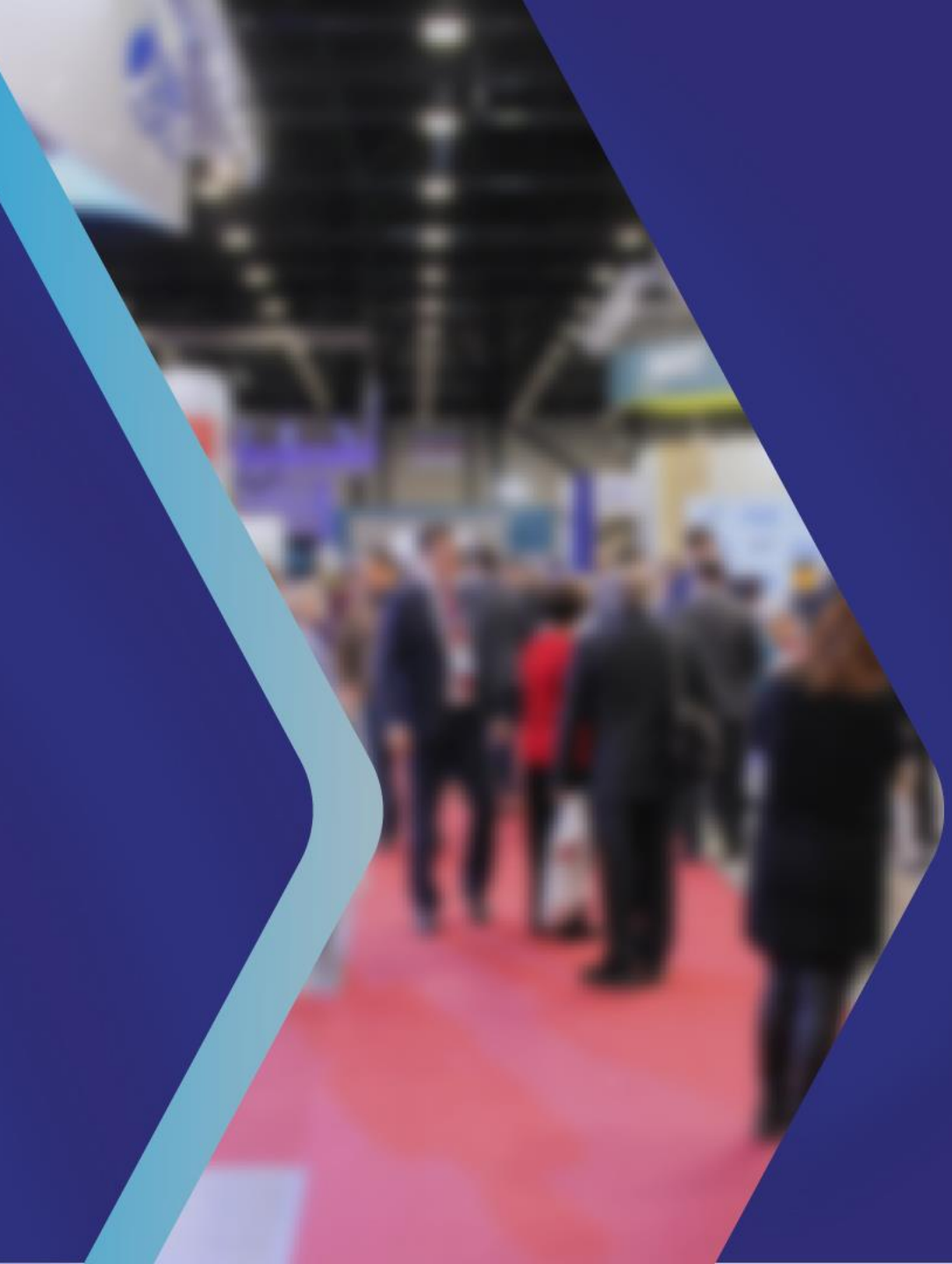
Backoffice

- Clearing, Settlement and Dispute Management
- Interchange and Fees

AI Backed FRM

- Real & near real time alerts based on the rules defined in system
- Score based inputs which equips member banks to carry out enhanced due diligence based on AI.

Thank You



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